



consequent voltage drop. In most jurisdictions, the initial switch wiring as well as any alterations is legally performed only by a licensed electrician.

Figure 2 is a schematic diagram of an electronic ballast 9 of this invention. A control switch 10 is wired to connector 11. A cable (not shown) connects connector 11 to connector 12; this could be a long distance. A length of flat 4-conductor telephone or any corresponding signal type cable 13 goes from connector 12 to connections within ballast 9. Terminals 14 and 15 supply input power to ballast 9. Output terminals 16 and 17 connect to each of two lamps (not shown.) while connector 18 is common to each of the lamps.

Figure 2 also shows that the key element that distinguishes this ballast from, other electronic ballasts is the use of an electronic optical isolator component 19 which includes a matched pair of light emitting diode (LED) 20 and photo transistor 21. A internal low voltage and low current supply source for energizing LED 20 may be optionally derived from resistors R5 and R6 which are connected in the ballast internally to the power input supply terminals 14 and 15. When using the internal power source LED 20 is energized when remote switch 10 is closed causing limited power supply current to flow through supply terminals 14 and 15, resistor R1 and LED 20, causing LED 20 to forward bias transistor 21 into conduction. Conducting transistor 21 causes transistor Q3 to stop conducting which reverses biases diodes D1 and D2 conduct, allowing the gates of the transistors in the power oscillator portion of the circuitry 23 in ballast 9 to function in an un-impeded or power "on" mode.

Schematic section 23 (indicated by a dashed line box) serves to typify a standard high frequency inverter circuit used to energize a fluorescent lamp. A similar circuit may be applied to the operation of a HID lamp with emphasis applied to the essential functions of this invention.

Schematic section 22 (indicated also by a dashed line box) is new circuitry related to remote on/off switching, control of one or more ballasts, except for subcircuit 19,